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Paper No. 28

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte NOBUMITSU AIBARA

Appeal No. 2001-0821
Application 08/962,567

ON BRIEF

Before HAIRSTON, KRASS, and JERRY SMITH, Administrative Patent
Judges.

JERRY SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from
the examiner's rejection of claims 1-11 and 14-25, which
constitute all the claims remaining in the application.

The disclosed invention pertains to a shadow-mask type
color cathode ray tube. More particularly, the invention relates
to the manner in which slots are arranged on the shadow mask
which is fixed apart from the face panel of the cathode ray tube.

Representative claim 1 is reproduced as follows:

1. A shadow-mask type color cathode-ray tube comprising:
 - a face panel on which an image is displayed;
 - a funnel connected to said face panel, said funnel and said face panel forming a vacuum container;
 - electron guns for producing electron beams for red, green and blue colors, said guns being horizontally arranged in line;
 - a deflection yoke provided around said funnel, said yoke deflecting said electron beams;
 - a phosphor screen formed on an inner surface of said face panel in said container;
 - said screen having stripes of phosphor materials for red, green and blue colors, said stripes being horizontally arranged in said screen;
 - a shadow mask fixed apart from said face panel and opposed to said phosphor screen in said container;
 - said shadow mask having slots which selectively allow said electron beams to arrive at said phosphor screen through said mask, each of said slots having a vertically elongated shape; said electron beams being scanned perpendicular to said slots;
 - said slots being arranged horizontally at a fixed horizontal pitch with respect to each other;
 - said slots being arranged vertically at a fixed vertical pitch with respect to each other;
 - wherein at least two vertically adjacent ones of said slots each have a bridge area therebetween, said bridge area serving as an electron-beam stopping area;
 - wherein at least two horizontally adjacent ones of said slots are vertically shifted a fixed distance relative to each other, said fixed distance being equal to approximately a half of said vertical pitch; and

wherein said vertical pitch of said slots is set at a value ranging from 0.2mm to 0.5mm and is defined relative to centers of said slots.

The examiner relies on the following references:

Thompson-Russell	4,859,901	Aug. 22, 1989
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K. Hirabayashi et al. (Hirabayashi), "High-Resolution Color Display Tube," National Technical Report, Vol. 25, No. 2, April 1979, pages 251-263.

Claims 1, 3, 4, 6, 8 and 11 stand rejected under 35 U.S.C. § 102(b) as being anticipated by the disclosure of Thompson-Russell. Claims 1-11 and 14-25 stand rejected under 35 U.S.C. § 103. As evidence of obviousness the examiner offers Thompson-Russell in view of Hirabayashi¹.

Rather than repeat the arguments of appellant or the examiner, we make reference to the briefs and the answer for the respective details thereof.

OPINION

We have carefully considered the subject matter on appeal, the rejections advanced by the examiner and the evidence of anticipation and obviousness relied upon by the examiner as support for the rejections. We have, likewise, reviewed and

¹ Our understanding of Hirabayashi is based on a translation provided to the Office by an Office contractor. A copy of this translation is attached to this decision.

taken into consideration, in reaching our decision, the appellant's arguments set forth in the briefs along with the examiner's rationale in support of the rejections and arguments in rebuttal set forth in the examiner's answer.

It is our view, after consideration of the record before us, that the evidence relied upon does not support either of the rejections as formulated by the examiner. Accordingly, we reverse.

We consider first the rejection of claims 1, 3, 4, 6, 8 and 11 under 35 U.S.C. § 102(b) as being anticipated by the disclosure of Thompson-Russell. These claims stand or fall together as a single group [brief, page 3]. Anticipation is established only when a single prior art reference discloses, expressly or under the principles of inherency, each and every element of a claimed invention as well as disclosing structure which is capable of performing the recited functional limitations. RCA Corp. v. Applied Digital Data Systems, Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir.); cert. dismissed, 468 U.S. 1228 (1984); W.L. Gore and Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 1554, 220 USPQ 303, 313 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

With respect to representative independent claim 1, the examiner indicates how he finds anticipation [answer, pages 3-4]. Appellant argues that Thompson-Russell does not disclose that each of the slots has a vertically elongated shape and wherein the vertical pitch of the slots is set to a value ranging from 0.2mm to 0.5mm and is defined relative to the centers of the slots as claimed. Appellant notes that the values set forth for the dimensions of the slots in Thompson-Russell cannot possibly satisfy the dimensions recited in claim 1 [brief, pages 3-6]. The examiner responds by citing a portion of Thompson-Russell wherein it is stated that "[t]he pitch between the apertures and the rows of apertures is, for example, 0.20mm and 0.53 mm, respectively." The examiner notes that the claimed range reads on the range disclosed by Thompson-Russell [answer, pages 5-7]. Appellant responds that the portion of Thompson-Russell relied on by the examiner relates to a discussion of the pits and not of the vertical slots as claimed. Appellant also responds that the examiner has improperly relied on Hirabayashi to support this anticipation rejection based on Thompson-Russell [reply brief].

We will not sustain this rejection of the examiner. The portion of the disclosure of Thompson-Russell which is relied on by the examiner does not support the examiner's finding of

anticipation. First, we agree with appellant that the portion of Thompson-Russell relied on relates to the diagonal blind slots 24 and not to the vertical slots 10. The use of the term "apertures" in the sentence quoted above is a clear error in terminology and is inconsistent with the remainder of the disclosure with respect to the apertures 10. Second, the use of the term "pitch" in the sentence quoted above is clearly not defined relative to the centers of the slots (blind slots) because it is inconsistent with the values specifically disclosed in the reference. The vertical pitch in Thompson-Russell is clearly designated as being 0.77mm when measured from the centers of the slots. There is no alternative embodiment disclosed. Since a vertical pitch of 0.77mm is not within the claimed range of 0.2mm to 0.5mm, Thompson-Russell does not fully meet the invention as recited in representative claim 1.

We now consider the rejection of claims 1-11 and 14-25 based on Thompson-Russell and Hirabayashi. In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere

Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See Id.; In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir.

1984); and In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976). Only those arguments actually made by appellant have been considered in this decision. Arguments which appellant could have made but chose not to make in the brief have not been considered and are deemed to be waived by appellant [see 37 CFR § 1.192(a)].

With respect to independent claim 1, the examiner cites Thompson-Russell for the teachings discussed above. Hirabayashi is cited as teaching a color cathode ray tube in which the vertical pitch of the slots is between 0.2mm and 0.5mm as defined from the centers of the slots. The examiner finds that it would have been obvious to the artisan to reduce the vertical pitch in Thompson-Russell to be between 0.31mm to 0.42mm as taught by Hirabayashi [answer, page 4].

With respect to claim 1, appellant argues that the values disclosed by Hirabayashi relate to the horizontal pitch of mask holes and not to the vertical pitch as claimed. Appellant also argues that there is no disclosure of a relevant vertical pitch in Hirabayashi and that the drawings cannot be presumed to be drawn to scale. Finally, appellant argues that the examiner is improperly relying on per se rules of obviousness with respect to the dimensions recited in the claims [brief, pages 6-11].

The examiner responds that the horizontal and vertical pitches in Hirabayashi are related as shown in Figure 1b [answer, pages 7-8]. Appellant responds by essentially repeating the arguments made in the main brief [reply brief].

We will not sustain this rejection of independent claim 1 or of any of the claims which depend therefrom. The deficiencies of Thompson-Russell have been discussed above. Additionally, we agree with appellant that the values of pitch described in Hirabayashi relate to dimensions in the horizontal direction and not to the vertical direction as claimed. We also agree with appellant that there is no clear disclosure in Hirabayashi that the pitch in the vertical direction is directly related to the pitch in the horizontal direction regardless of the arrangement of the slots as shown in Figure 1b. We also note, however, that the description in Hirabayashi appears to be directed to the use of round-hole type mask holes. Note that Hirabayashi states that for high-resolution color display tubes the round-hole type of mask hole is used [translation, page 7]. Thus, the values in Hirabayashi would describe pitch values for round holes and not for vertically elongated slots as claimed. Therefore, the values of vertical pitch recited in independent claim 1 are still not taught by the combination of Thompson-Russell and Hirabayashi.

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In summary, we have not sustained either of the examiner's rejections of the claims on appeal. Therefore, the decision of the examiner rejecting claims 1-11 and 14-25 is reversed.

REVERSED

Kenneth W. Hairston)	
Administrative Patent Judge)	
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Errol A. Krass)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
)	
)	
Jerry Smith)	
Administrative Patent Judge)	

JS/cam

Sughrue, Mion, Zinn, MacPeak & Seas
2100 Pennsylvania Avenue, N.W.
Washington, DC 20037